



## **ENVIRONMENTAL HEALTH PROJECT**

### **WASH Reprint: Field Report No. 440**

Sewage Collection System and  
Treatment Facility for Eleven Municipalities  
in Borsod County, Hungary

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June 1994

Prepared for the Bureau for  
Europe and Newly Independent States  
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## **WASH and EHP**

With the launching of the United Nations International Drinking Water Supply and Sanitation Decade in 1979, the United States Agency for International Development (USAID) decided to augment and streamline its technical assistance capability in water and sanitation and, in 1980, funded the Water and Sanitation for Health Project (WASH). The funding mechanism was a multiyear, multimillion-dollar contract, secured through competitive bidding. The first WASH contract was awarded to a consortium of organizations headed by Camp Dresser & McKee International Inc. (CDM), an international consulting firm specializing in environmental engineering services. Through two other bid proceedings, CDM continued as the prime contractor through 1994.

Working under the direction of USAID's Bureau for Global Programs, Field Support and Research, Office of Health and Nutrition, the WASH Project provided technical assistance to USAID missions and bureaus, other U.S. agencies (such as the Peace Corps), host governments, and nongovernmental organizations. WASH technical assistance was multidisciplinary, drawing on experts in environmental health, training, finance, epidemiology, anthropology, institutional development, engineering, community organization, environmental management, pollution control, and other specialties.

At the end of December 1994, the WASH Project closed its doors. Work formerly carried out by WASH is now subsumed within the broader Environmental Health Project (EHP), inaugurated in April 1994. The new project provides technical assistance to address a wide range of health problems brought about by environmental pollution and the negative effects of development. These are not restricted to the water-and-sanitation-related diseases of concern to WASH but include tropical diseases, respiratory diseases caused and aggravated by ambient and indoor air pollution, and a range of worsening health problems attributable to industrial and chemical wastes and pesticide residues.

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**SEWAGE COLLECTION SYSTEM  
AND TREATMENT FACILITY FOR ELEVEN  
MUNICIPALITIES IN BORSOD COUNTY, HUNGARY**

Prepared for the Bureau for  
Europe and Newly Independent States,  
U.S. Agency for International Development  
under WASH Task No. 511

by

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and  
Max Clark III

June 1994

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## ABOUT THE AUTHORS

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Max S. Clark III has an M.S. in Civil Engineering (Hydraulics and Water Resource Systems) from M.I.T. and since 1968 has worked for Camp Dresser & McKee International Inc. (CDM). Mr. Clark has been concerned principally with engineering planning and systems analysis for major CDM projects, and with development of computer programs for CDM's general purpose software library. He has extensive project experience in wastewater facilities planning multi-purpose water resources development, water distribution system design, hydraulic analysis, and system simulation models. In a major effort in 1993 in the Danube basin, Mr. Clark was team leader for the WASH studies in Bulgaria and Romania. He has worked on various other projects in Thailand, Seychelles, Australia, and Turkey as well as many state and local projects in the United States.

## EXECUTIVE SUMMARY

The Government of Hungary is seeking funding assistance to construct a sewage collection system and secondary treatment facility for 11 small municipalities in southern Borsod County in the basin of the Sajó and Hernád rivers. The \$18 million project is part of a comprehensive, phased effort to protect the groundwater resources of the Sajó-Hernád confluence. While the Government of Hungary will fund 80 percent of the project, the 11 villages must raise \$3.6 million in additional funds through loans, user fees, taxation, or other sources.

The project area is 350 square kilometers and includes the greater Miskolc metropolitan region, with a population of 300,000. The Sajó-Hernád aquifer provides a main source of drinking water for the local population and also contributes to the regional supply system of the North Hungarian Regional Water Works Authority, serving another 300,000 people. The center of the project area, where four major water supply extraction well systems are located, is designated a Groundwater Protection Area. These 11 unsewered villages lie over and adjacent to the Groundwater Protection Area, and with a steadily growing population, they are threatening the aquifer. Because of this project's urgency, the Government of Hungary accords it the highest priority, and national government grant funding is virtually assured.

The Water and Sanitation for Health (WASH) Project has been contracted to develop and carry out a strategy for treating the wastewater of these 11 settlements, either in conjunction with the city of Miskolc, which currently has primary treatment facilities with plans to upgrade, or to build separate collection and secondary treatment facilities. In the prefeasibility stage of the project, the government rejected the option of constructing a collection system that would convey the wastewater flow to the Miskolc collection system and treatment facilities. The preferred option is to construct specific facilities for each settlement. This construction plan would give the villages independence in setting user fees and not tie them to the rate-setting authorities of Miskolc, which has set current prices very high. All wastewater from the 11 communities located in and near the Groundwater Protection Area would be collected and pumped to a new secondary treatment plant at Korom. This would allow the villages to provide efficient low-cost operation in the future.

Although the settlements executed a statement of intent to form an association and the Water Authority has issued the permit to proceed, the settlements have made little preparation for construction management. Nor have the officials of the settlements given serious consideration to the policy-making structure or the operations and maintenance (O&M) organization that will be needed once the facilities are complete and running.

According to the proposed timetable, bids for the new system will go out in January 1995, construction will begin in April 1995, and the plant will be ready for start-up in 1998. Before the system is implemented, however, the villages must apply for national funds to construct the facilities, they must secure the 20 percent local share, and they must form an interlocal nonprofit shareholding association to manage construction and O&M of the facilities. Since the

11 settlements do not have direct water management experience, there is no indication that they will do anything other than bid out the management function of the potable water system.

It is recommended that the interlocal association for construction be formed at the earliest possible date. It is crucial that all settlements consider the provisions of the association's charter to ensure that any mayor or group of mayors entrusted with constructing the facilities be given the proper amount of discretionary power but be held strictly accountable to the self-government assemblies. Also, there is a critical need for assistance in the financial aspects of construction management and in the governance of the system when it is completed. More detailed recommendations are included in the final chapter of this report.

## Chapter 1

### INTRODUCTION

#### 1.1 Project Description

The Government of Hungary is seeking funding assistance to construct a sewage collection system and secondary treatment facility for 11 small municipalities in southern Borsod County. This project is part of a comprehensive effort to reduce pollution and protect groundwater resources in the Sajó and Hernád rivers in Eastern Hungary. It encompasses a 350 square kilometer area, which includes the city of Miskolc—the second largest city in Hungary with a population of 300,000. The Sajó-Hernád aquifer provides a main source of drinking water for the local population and also contributes to the regional supply system of the North Hungarian Regional Water Works Authority, serving another 300,000 people. The center of the project area, where four major water supply extraction well systems are located, is designated a Groundwater Protection Area.

The aquifer is threatened by the existence of 11 unsewered villages that lie over and adjacent to the Groundwater Protection Area. Since the population of these villages is growing steadily, this environmental hazard can only grow worse if uncorrected. As a result, WASH has been contracted to develop and carry out a strategy for treating the wastewater of these 11 settlements, either in conjunction with the city of Miskolc, which currently has primary treatment facilities with plans to upgrade, or to build separate collection and secondary treatment facilities. The Government of Hungary accords this project the highest priority, and national government grant funding is virtually assured.

In October 1993, the WASH Project funded the employment of a Miskolc engineering firm, Keviterv, to provide engineering data, preliminary cost estimates, and options for the construction of sanitary sewerage facilities for as many as 10 communities, with an additional settlement joining the project at a later date. Keviterv presented a comparison of four alternatives, including building a new, separate treatment plant near Korom. The cost differences among the alternatives were small, and, therefore, political and financial considerations won out over economic ones. During this prefeasibility stage of the project, the government did consider constructing a collection system that would convey the wastewater flows to the Miskolc collection system and treatment facilities, but rejected that option for a number of reasons. The communities and national ministries involved decided that constructing facilities without tying into the Miskolc treatment plant would be the preferred option.

The 11 settlements involved in this project are Berzek, Bocs, Gesztely, Hernádnemeti, Hernádkak (and Belegrad), Korom, Onga, Sajolad, Sajopetri, Sajohidveg, and Onod. They have a combined population of about 35,000, each with a self-government assembly as its legislative and policy-making body, and each with a mayor as chief executive. The mayor of Hernádnemeti, the largest settlement, has acted as the unofficial representative of all the



settlements in dealings with Keviterv, the city of Miskolc, and agencies of the national ministries in this early stage of wastewater treatment planning. The mayors prefer the option of constructing specific facilities for the settlements, as opposed to joining Miskolc's facility, because that option would give the villages independence in setting user fees and not tie them to the rate-setting authorities of Miskolc, where current prices are high. Although the unemployment rate in the Miskolc region exceeds 20 percent because of a downturn in industrial production, the operating authorities have not downsized staff, which accounts for the high prices.

With the option the mayors have chosen, all wastewater from the 11 communities located in and near the Groundwater Protection Area would be collected and pumped to a new secondary treatment plant at Korom, which would allow the villages to provide efficient low-cost operation in the future. In addition, the construction cost of a new treatment plant is only 12 percent more than building the transmission line and the pumping station for the Miskolc option. The operating costs are 8 percent lower for the smaller plant than for the Miskolc plant, even when the depreciation factor is included. Also, the new plant will have tertiary treatment while the current Miskolc facility meets only secondary treatment standards.

The new system will call for the abandonment of all septic tanks and other on-lot disposal systems in the area and the construction of a sewerage network consisting of approximately 25 kilometers of main sewers, 125 kilometers of street laterals, and 11 pumping stations. Connections from individual houses to the sewerage network are the responsibility of homeowners. An estimated 7,900 house connections are required. The treatment facility will provide biological treatment for phosphorous removal (anaerobic), nitrate removal (anoxic), deep air blowing and biosludge (oxic), and post sedimentation; chemical treatment (disinfection); and sludge treatment.

The villagers currently pay high prices for frequent septage service, and commonly each land plot has a polluted well that is used for watering vegetable gardens. A typical household must empty its septic tank three or four times per year, and the septage must be hauled to the Miskolc treatment plant by vacuum tanker truck. The cost is typically \$30 to \$50 per emptying. The village of Hernadnemeti pays approximately \$2,500 per year for septage removal from the local school. Average sewage flow from the 11 settlements would be approximately 3,000 cubic meters per day if the villagers were to use the Miskolc plant, while the current average daily flow at the plant is 70,000 cubic meters per day.

## **1.2 Project Preliminaries**

On January 13, 1994, a Permit to Proceed with final plans and cost estimates was issued by the Water Authority, an agency of the national government. This permit, also known as Permit #1, allows the settlements to prepare all documentation necessary to apply for national funding and to devise plans for raising their local share of funding. The Government of Hungary will fund 80 percent of this \$18 million project through three major funding sources: 60 percent in Targeted Grant Funds, which are available to cities and groups of municipalities; 10 percent

from the Water Fund (Ministry of Telecommunications, Transport, and Water Supply); and 10 percent from the Environmental Fund (Ministry of the Environment). The 11 villages must raise the remaining 20 percent through loans, user fees, taxation, or grants.

While the WASH Project, Keviterv, and the settlements have done considerable work in preparing plans and cost estimates and in seeking approvals by the relevant ministries, the settlements have made little preparation for construction management. Nor have the officials of the settlements given serious consideration to the policy-making structure or the operations and maintenance organization that will be needed once the facilities are complete and running.

To strengthen the case for national funding of at least 80 percent of the project and to demonstrate to international funding sources as well as Hungarian banks the commitment of the settlements to effectively manage the assets, WASH Project managers decided to field a short-term consultant for two and a half weeks in January and February of 1994. The consultant, Alan H. Edmond, began work in Miskolc on January 19 and completed his duties on February 4, 1994.

WASH Project staff recently determined that the approved plan of action is to proceed with the construction option that will create a wastewater collection and treatment system independent of Miskolc and that the government of Hungary will fund only regional, not individual, settlement projects. Therefore, the management capability of the 11 settlements needed to be assessed in terms of a wastewater project of the envisioned size and complexity. This analysis was to take into account the views of officials from the relevant national ministries, county self-governments, Keviterv, and the settlements themselves. The assessment also was to include conversations with private or state companies involved in the management of water supply and wastewater to determine what resources in the Miskolc area are sufficient to manage the construction and O&M activities of the 11 settlements upon completion of the facilities.

A major portion of the assessment was to consider current provisions of Hungarian law (statutes and ministerial decrees) governing the formation of regional associations or other entities empowered to manage wastewater facilities, construction, and O&M activities. Finally, sources of funding would be identified for the local share of construction costs, from outside and within the settlement governments.

### **1.3 Steps Taken**

USAID, through the WASH Project, has conducted the following actions in preparation for this project:

- The feasibility study prepared by Keviterv was reviewed by an expatriate engineer from the firm, Camp Dresser & McKee International Inc.
- The institutional capabilities of the 10 municipalities to create, operate, and manage the proposed new system were assessed by an expatriate consultant.

- A scope of work for the engineering design work required for Government of Hungary permit applications was developed, and Keviterv was contracted to carry it out, with assistance from the expatriate engineer.
- All remaining activities needed to fund and construct the collection and treatment facility were identified and defined by Keviterv and the consulting engineer.

## Chapter 2

### FINDINGS AND CONCLUSIONS

Through a series of interviews with appropriate officials and a detailed analysis of existing Hungarian law on the subject of interlocal associations, the consultants formed a clear impression of the following:

- Current efforts to address the long-term management issues described above
- The schedule for national government approvals of design and funding
- The construction schedule
- The legal mechanisms available that will enable the 11 settlements to form an effective and stable management entity that will be directed solely at the provision of wastewater services for the inhabitants.

#### 2.1 Findings

Specific findings are highlighted and explained in the following paragraphs.

**The settlements are to decide within the next several weeks whether to form an association of settlements under the provisions of national law.** To date, the settlements have taken no official action other than to execute a statement of intent to form an association under Local Government Act (Law LXXV on Local Government). This undated document was executed and submitted to the national government in 1993. The association referenced is to exist only to serve during the construction phase. The Water Directorate's regional administrator, Mr. Stefon, prefers that such an association be formed as soon as possible, and there are indications that negotiations of the contract, which will define the association's power, will begin in March.

**The settlements are not likely to manage directly either the construction of the facilities or the operations and maintenance of the regional collection and treatment facilities.** Their role more likely will be one of overall policy-making and governance, with most of the maintenance handled by outside contractors. The purpose of this assignment was to assess the institutional capacity of the 11 settlements to manage a large and complex wastewater treatment and collection system in the construction and operations/maintenance stages. This assessment involves looking at the internal structures of the settlements themselves, including the management and financial staffing and the staffing and equipment of the operating public works departments. It then entails making an initial judgement as to whether those small governmental units could conceivably increase staff to handle the various aspects of wastewater management.

It became evident immediately that the settlements generally are not involved in the day-to-day management of public works facilities. This practice is due in part to the former national ownership (regionally administered) of such facilities as potable water and gas distribution. Local governments, rather than possessing large numbers of staff, typically contract out for major public works services. As a different option, the 11 settlements could assume the maintenance of locally owned sewer mains or form companies to contract with existing companies to carry out the actual maintenance functions.

Hungary has a long history of interlocal cooperation dating back to the early nineteenth century when the law allowed multijurisdictional associations for potable water supply. Recent history, however, reflects a centralized system of utility management, with water supply systems being run by agents of the national government, usually at a county-wide level. Recently provisions have been made to turn over potable water supply facilities to local governments, but provisions are also available for those governments to delegate the operation of the facilities to joint stock companies, limited dividend corporations, and partnerships. Typically the settlements retain only a governance role through legal mechanisms for the creation of interlocal associations of self-government assemblies. This policy gives the inhabitants representation in the affairs of the utility, most particularly in the setting of rates and in the administration of depreciation funds. The link between the inhabitants/customers and the utility is the board of directors of the interlocal association, which is broken down into management and technical oversight committees.

**The institutional capacity of the association of settlements will depend largely upon the skill and vigilance of the management committee and its agent, usually the mayor of the largest settlement.** The mayor of Hernadnemeti is the *de facto* leader of the planning process for the settlements, and it is expected that he will formally be named as the *Jastor*, or leader, of any management committee formed under the charter (contract) of an association of settlements. It is also apparent that there is a small group of activist mayors from several of the 11 settlements who are likely candidates for the proposed management committee.

**The settlements, as a loose grouping of 11 municipalities, have progressed well in the preparation of design documents and have received a high priority for national funding and project approval.** In January 1994, it was decided to proceed with the option of designing a new treatment plant with no connection to Miskolc. The following is an account of the steps that have been taken or still need to be taken to produce plans, process approvals, and secure funding for the wastewater facilities:

- The settlements have executed a statement of intent. According to Mr. Gyorffy of Keviterv, the Ministry of Water Economy, Transportation, and Telecommunications initiated this project in order to protect critical groundwater supplies in the 11-settlement area and invited those settlements to form an association to carry out the construction. Mainly because of the impetus provided by the Ministry, this has become a high-priority project, which is almost certain to be funded this year. The statement of intent says that the self-government assembly of each of the signatory settlements

has voted to support a wastewater collection and treatment system jointly and that each settlement is committed to raising its local share of funding from its own tax-generated funds, if necessary. While it is not mentioned who will act as agent, the mayor of Hernadnemeti has been representing the 11 settlements since the beginning of discussions with the national government and in dealings with Keviterv.

- Conceptual design is proceeding, and the Permit to Proceed (Permit #1) has been issued. The Water Directorate issued this permit, pursuant to the Water Law on January 13, 1994, to the 11 municipalities. Permit #1 authorizes the settlements to prepare all documentation necessary to apply for national funding and to devise plans for raising the local share.

Prior to its issuance, comments were made by the Health Organization of Borsod County and the North Hungary Regional Environmental Protection Inspectorate. The comments of the former concerned treatment plant siting and the disposal of sludge. The latter organization performed an in-depth assessment of the technical plans.

Permit #1 was issued without the formation of an intermunicipal association. There is no legal requirement stating that an association must be in place before applying for or receiving funding. However, Mr. Stefon of the Water Directorate and others strongly believe that an association is critical to the project's construction. Whether an association exists for the purpose of carrying out O&M is a question of less importance to the national and regional officials, according to several who were interviewed, not because such an association will be of little value, but because it is "much too soon" to consider its structure and functions when the immediate task is to construct the facilities.

- Plans have been finalized and submitted as part of the application for the Permit for Construction (Permit #2—approval for 100 percent of plans) on February 25, 1994, to the Water Directorate. With Permit #1 in hand, the Directorate spends about two weeks reviewing the submission for Permit #2. This process involves a review by relevant agencies, with an approval of final plans by March 15 or earlier. Because this is a high priority, or "pronounced project", Permit #2 may be issued without the approval of 100 percent plans having been made. In other words, some minor design details may be unresolved by the time the settlements apply for funding, which is no later than March 15.
- By March 15, the settlements must jointly apply for national funds for the construction of the facilities. Funds will come from three national sources: the Targeted Grant Fund, the Environmental Fund, and the Water Fund, comprising 80 percent of the necessary amount. At this time, there are no commitments from the European Bank for Reconstruction and Development, World Bank, Hungarian National Bank, or other sources for the 20 percent local share. Again, it is not necessary for an association of settlements to have been formed prior to the issuance of the Hungarian grants; the statement of intent signed by the 11 settlements seems to suffice as a commitment to raise the 20 percent locally, if necessary. However, the formation of an association,

which may be a prerequisite of some international funding agencies, would certainly add strength to any funding request.

- The Hungarian National Assembly must grant the national funds. This grant will take place over a period of up to six months from the March 15 deadline.

The funding action will be ratified by the Executive Branch and earmarked for the project in the fall of 1994. Preparation must be made for bids to go out in January 1995. Prior to bidding, plans must be at 100 percent, and the settlements must have provided documentation of the sources and respective amounts of funding for the 20 percent local share.

- Bidding of the first construction contracts should be carried out in January 1995, with construction beginning in April 1995 and continuing to plant start-up in 1998. The timetable described above is based on interviews primarily with officials from the Water Directorate and the legal offices for Borsod County. The general procedure for granting permits and funding allows for joint application by the 11 settlements. There is no legal requirement for the creation of an intermunicipal association to apply for or receive approvals for funding.

Those interviewed, however, are assuming that an association will be formed for construction purposes at the time of funding announcements. This plan gives some lead time for local self-government assemblies to put together the basic provisions of the contractual agreement that will govern any such association's scope, structure, and operating procedures. The settlements will formally decide to create an association within a few weeks, and such approval grants the contract legal status that is enforceable by the courts.

**The institutional capacity of the 11 settlements to manage the construction of the wastewater facilities will be defined greatly by the degree to which and the manner in which an interlocal association is structured and given enough autonomy to perform its assigned role.** The following outlines the minimum such an association must adopt under national law:

- Legal Basis for Associations. While at present there is no statute that requires or defines such associations, there is a statute that enables municipalities to form "associations to cope with their tasks more effectively and efficiently" (Law LXV on Local Government, Chapter III, Article 41, {1}. This section further states in {2} that "an association is a legal person. Its seal and representation are regulated by the contract that created the association." And in {4} "The courts decide in contested issues that arise between the bodies of representatives of local municipal governments in the course of the operation of the associations."

In addition, there are several executive orders of the Council of Ministers that mandate certain procedures and provisions of those associations. The executive orders are standing documents that are amended periodically. When amendments are not made

on a timely basis to conform to changing national conditions, gaps in the executive orders appear. No serious gaps were found in this analysis, and it is assumed that the executive orders at this time provide a reliable basic framework for creating associations of settlements for the purpose of wastewater facilities construction management.

- **Formation of an Association.** Executive order #4 states that an organizing committee must be formed, that it is mandated to seek input from potentially affected parties, and that it must document that input. The organizing committee of the settlements adopts organizational bylaws (the contract), elects officers, and appoints its standing committees (management and inspections). The bylaws (contract) are submitted to the president's representative and are recorded with the Court of Registration. According to the attorney for Borsod County, once these steps have been taken, the contract is enforceable and membership is locked in for the 11 settlements until construction of facilities is complete, a date is certain, or the treatment plant is commissioned.
- **Adding or Deleting Member Settlements.** It is the attorney's interpretation that the interested parties are the settlements that have signed the statement of intent. She interprets the membership regulations to mean that 50 percent plus one of the settlement assemblies can form the association of 11 settlements. Any settlement voting negatively would eventually be compelled to belong through an enforcement of drinking water standards by the courts. Any settlement wishing to drop out would be compelled to stay through construction, enforceable by member settlements through the courts. The likelihood of settlements dropping out is low since they would then need to build their own treatment plants in addition to paying for their share of the association's facilities.
- **Bylaw (Contract) Provisions.** Executive Order #5 mandates, among other things, that the association determine the *pro rata* contributions of the member settlements. As applied to construction costs, the formula can be based upon either each settlement's *pro rata* share of overall population or the projected flow of each settlement, as determined by engineering estimates. When O&M begins, adjustments can be made based upon water meter readings.

The two remaining prime provisions of Executive Order #5 have to do with the *modus operandi* of the association and the powers and duties of its officers. Provision for these is nonspecific. Mr. Pal of the Borsod County self-government stressed that in recent years working relationships in the various associations have developed, at least in the water sector, that give "not too little and not too much" power to the appointed executives who run the associations on a day-to-day basis. The Executive Orders do not offer much information regarding these powers, and there is no definition of the separation of powers between the membership meeting (Executive Orders #8 and 9) and the managing committee (Executive Order #10). The chair of the managing committee is not well defined, appearing to have decision-making powers "between sessions of the managing committee" (Executive Order #11). The appointed managing director (Executive Order #14) is the head of administration, governing the



"organization of the association". According to Hungarian practice, the managing committee has a strong administrative role, which includes supervising hired staff and making important decisions without consulting the self-government assemblies. Such an arrangement can lead to occasional abuse, and therefore having a clear delineation of the powers of the managing committee, with an adequate reporting system, is of paramount importance.

**The 11 settlements do not have the experience, the staffing capability, or the inclination to set up a municipal wastewater utility that directly manages the construction and O&M of the wastewater system.** While it is likely that each settlement will contract for collection system construction within its jurisdiction (since each settlement will own its mains) and may set up operations to maintain and clean its own mains, it is not likely that settlements will feel capable of taking on more than a broad governance role for treatment and regional system management.

No official interviewed expressed concern that the issue of O&M of the regional system has been given little thought at this stage of the planning process. The tradition in Hungary has been to contract out the management of both construction and O&M for water supply, and it is evident that this custom will carry over into the wastewater management area, at least for the proposed regional facilities.

The following is suggested as a minimum:

- A formal progress report should be given to the members of the self-government assemblies at least every three months.
- The management of competitive bids should be totally within the domain of the managing committee, but tenders for the management of the facilities should be decided by a vote of all settlements, based upon proportional representation of the population of the assets of each settlement.
- If each settlement decides to manage the construction of its own collection system, a formal relationship should be established in which the technical oversight committee of the association plays a role in reviewing the findings of each local technical oversight committee during construction.

## **2.2 Conclusions**

The purpose of this assignment was to assess the institutional capacity of the 11 settlements to manage the construction and O&M of a large and complex wastewater treatment and collection system. It was obvious that the settlements in question generally do not involve themselves in the day-to-day management of public works facilities. This separation is due in part to the former national ownership (regionally administered) of such facilities as potable water supply and gas distribution.

Rather than employ a large staff, local governments contract out for major public work services. An exception to this practice may be the local governments' assumption of the maintenance of locally owned sewer mains, yet, even in this case, settlements may form companies or contract existing companies to carry out the actual maintenance functions. Hungary has a long history of interlocal cooperation, dating back to the early nineteenth century when multijurisdictional associations for potable water supply were authorized, with water supply systems being run by large agencies of the national government, usually at a county-wide level.

Provisions have been made to turn over potable water supply facilities to local governments, but provisions are also available for those governments to delegate the operation of the facilities to associations, joint stock companies, limited dividend corporations, and partnerships. Thus the inhabitants have representation in the affairs of the utility, most particularly in the setting of rates and the administration of depreciation funds. The link between the inhabitants/customers and the utility is the board of directors of the entity that is established, in whatever form.

The institutional capacity of any association of settlements depends largely upon the skill and vigilance of the management committee and its agent, usually the mayor of the largest settlement. But just as importantly, it also depends upon the provisions of the contract that governs the association itself. A recurring theme of those interviewed is that the contract is legally enforceable by the member settlements and the courts, and informally by the county government. However, that enforcement can be cumbersome and nearly impossible if the provisions of the contract are not inclusively and tightly constructed.

The central theme of this report is that the settlements should consider carefully all provisions of the contract at the outset because they will have to live with these provisions until the construction phase is finished. If the provisions are found to be workable and inclusive, they will become a model for subsequent contracts.

A standard measurement of institutional capacity involves examining the experience level of the local governments to determine their success in managing utilities of the scope and complexity of the wastewater system in question. Field surveys reveal that the 11 settlements have experience in the installation of water, gas, and telephone service in their area, and mayors refer to this experience as relevant to the wastewater project. While the settlements did indeed gain experience from such undertakings, they did not do the work. They were heavily involved in various details, but other entities planned, designed, and carried out the projects.

It cannot be concluded that the settlement governments gained the institutional capacity to qualify them to run wastewater project construction. Moreover, the history of interlocal cooperation and the turning over of potable water supply to settlement governments were pointed to as examples of local government's increasing role in utility construction and management. However, it is common now for settlements to bid out their water management functions, and often the former county water management association, in a downsized and privatized form, wins the bid. The 11 settlements in question do not have direct water

management experience, and at this time there is no indication that they will do anything other than bid out the management function of the potable water system they will be taking over from the national government.

If the 11 settlements remove themselves from the day-to-day affairs of construction and O&M for wastewater treatment, WASH can still be involved by providing short-term technical assistance in strengthening the interlocal association's capacity to cope with governing problems. Because the 11 settlements have no direct experience in managing a utility, there will be technical (mostly financial) problems. But perhaps more importantly, the concept of self-government in Hungary is still very new and untested in the sense that self-governments are now accountable for the funds they collect and spend on services that are locally sponsored, even if those services are contracted out. Making informed decisions for a successful self-government will be a challenge. Placing WASH experts in the field at appropriate times with appropriate tools will help the settlements meet that challenge.

## Chapter 3

### RECOMMENDATIONS

The most important recommendation pertains to ensuring that the interlocal association for construction be formed at the earliest possible date. It is crucial that all settlements consider the provisions of the association's charter to ensure that any mayor or group of mayors entrusted with constructing the facilities be given the proper amount of discretionary power but be held strictly accountable to the self-government assemblies that own the facilities.

**It is recommended that the WASH Project consider using "model" contractual provisions for any interlocal association agreement as the basis for technical assistance to the settlements prior to the approval of national funding (March-September, 1994).** Among those key provisions to be considered are as follows:

- A formal progress report should be given to the members of the self-government assemblies at least every three months.
- The management of competitive bids should be totally within the domain of the managing committee. However, tenders for the management of the facilities should be decided by a vote of all self-government assemblies, based upon proportional representation of either the assets or the population of each settlement.
- If each settlement decides to manage the construction of its own collection system, a formal relationship should be established in which the technical oversight committee of the association plays a role in reviewing the quality of construction of each local collection system before those systems are turned over to the settlements.

**It is recommended that the WASH Project employ experts in association law and contract law to provide impetus to the formation of a workable association of settlements.**

One such expert has been identified in the Borsod County government—the attorney who will be charged with informally assisting the settlements in the formation of a contractual agreement for members. She has a good working knowledge of the national laws governing associations, joint stock companies, and other entities that could manage construction and O&M, and she could be strengthened in her role if she were to be given some detailed information about the provisions of interlocal entities that have performed well in other countries.

**It is recommended that the WASH Project consider providing technical assistance in several areas to an association for the settlements.**

Field visits revealed that there is a critical need for assistance in the financial aspects of construction management and in the governance of the system when completed. Much of this consists of basic accounting and statistical analysis to ensure proper allocation and tracking of

funds, as well as to determine equitable rates for customers based upon various assumptions. Specific technical assistance of this type might include the following:

- A methodology for setting sewer rates based on the actual cost of providing service, factoring in the loss of national subsidies and the sequestering of depreciation funds. The decentralization of decision-making requires that depreciation funds now be protected (a sound practice). It also may mean the total loss of national funding for O&M. As a result, setting demonstrably fair rates has become even more critical to users.
- The provision of computer software applications for construction accounting, billing to customers, and related matters.
- Instruction in the establishment and management of a depreciation fund separate from the operating funds of the settlements when the system goes into operation. As mentioned above, this new "pool" of money must be managed precisely to ensure that the physical condition of the facilities is monitored accurately and that costs are correctly projected.

While local officials or representatives of the national government did not specifically state that assistance might be needed with competitive bidding, the author has inferred that bidding problems in past water and associated projects may have discouraged local officials from continuing to closely manage projects once construction was completed. It would be productive for the WASH Project to assist in the bid and contract award processes, especially since the 11 settlements may continue the association into the O&M phase.

- The provision of bid specifications for the management of the O&M function. This is based on the need to meet at least the following criteria:
  - A description of how continuous service will be provided
  - A description of the proposed maintenance of the treatment plant and other facilities, based upon best practice
  - A description of the installation and management of a mechanical and biological systems monitoring program
  - A demonstration of the financial soundness of the bidder, presented in standard format by all bidders
  - The price for service, broken down into fixed and variable costs, with a detailed breakdown of the first year's projected rate structure.
- Detailed assistance in the concepts and practices associated with competitive bidding for complex projects where several components may be bid separately. Since each settlement will own its collection system, the intent is to bid each system separately.

The advantages to bidding all projects together must be identified, and consideration given to the various bidding options for settlement facilities and regional facilities.

- Instruction in some of the major concepts involved in cost sharing should communities drop out of the association or other settlements join once the facilities are completed. This would include costing of capacity lost by adding settlements, cost of money over time, and depreciation's effect on buy-in or buy-out. Although guidelines currently exist for cost allocations for such occurrences, this is an opportunity to bring in other methods for consideration.

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